BRUHAT BANGALORE MAHANAGARA PALIKE

Yelahanka Zone, Electrical Division

Name of Work: Detailed Estimate for Providing and Fixing LED Lights at Yelahanka Division.

Est Cost Rs 20000000.00

Sl No	SR Page & SL No	Description Of Work	Unit	No	L,m	B,m	D,m	Qty	Rate	Amount
1	143 / 19.1	Earth work excavation by manual means in ordinary soil involving an average horizontal throw upto 2 meters and an average lift upto 0.5m, excavated surface levelled and sides neately dressed, the disposed earth to be levelled neatly after breaking of clods complete as per specification. MORTH / Chapter 3	Cum							
				1	1400.00	1.20	0.20	336.00		
				99	1.00	0.70	1.65	114.35		
						Total Qnty		450.35	211.79	95378.57
2	222 / 27.18	KSRRB M2100-10. Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @ 0.89 cum and fine aggregates @ 0.46 cum, in foundation mechanically mixed, placed in foundation and compacted by vibration including curing for 14 days including cost of all materials, labour, HOM of machinery, curing, formworks, scaffolding and centering complete as per specifications	Cum							
				2	1400.00	0.20	0.10	56.00		
				99	1.00	0.70	0.10	6.93		
						Total Qnty		62.93	5421.90	341200.17
3	155 / 20.20	Construction of Median and island with Soil taken from Borrow Areas. KSRRB M400-19. Construction of Median and island with Soil taken from Borrow Areas. Construction of Median and island above road level with approved material deposited from borrowpits, spread, sloped and compacted as per Clause 400.7 complete as per specifications. MORTH Specification No. 407	Cum							
				1	1400.00	0.80	0.30	336.00		
						Total Qnty		336.00	221.54	74437.44
4	27 / 5.30	Providing and fixing pre cast solid cement concrete kerb stones made out of CC 1:2:4 with top and bottom width 114 and 165 mm respectively, 400mm high and 450mm in length finished with CM 1:3 plastering and finishing cutting including formwork, curing, including cost of materials, labour charges of machinery, loading and unloading, lead and lift, transportation ete.,complete	Nos							
				2	1400.00		0.45	6222.00		
						Total Qnty		6222.00	432.48	2690890.56
5	180 / 24.1	KSRRB 800-1. Painting two coats after filling the surface with synthetic enamel paint in approved shades on new plastered concrete surfaces, with materials, labour complete as per specifications. MORTH Chapter 8	Sqm							
				2	1400.00		0.35	980.00		
						Total Qnty		980.00	84.80	83104.00
6	16 / 4.32	Providing and removing centering, shuttering, strutting, propping etc., for columns, pillars, post and struts, square / rectangular/ polygon in plan including cost of all materials, labour complete as per specifications.	Sqm							
				99	3.40		1.80	605.88		
						Total Qnty		605.88	483.36	292858.16
7	14 / 4.11	Providing and laying in position reinforced cement concrete of Design mix M20 with OPC cement @ 320kgs, with 20mm and down size graded granite metal coarse aggregates @0.69cum and fine aggregtes @ 0.460 cum, with super plasticisers @ 3 liters confirming to is 9103-1999 reafirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in foundation for footings, pedastals, retaining walls, return walls, walls (any thickness) including attached pilasters, columnspillars, posts, struts, buttresses, bed blocks, anchor blocks & plinths etc., including cost of all materials, labour, HOM of machinery, curing, complete but excluding cost of reinforcement as per specifications	Cum							
				99	1.00	0.70	1.80	124.74		
						Total Qnty		124.74	5998.54	748257.88

INFRA TECHNOCRATS CONSULTANT ★ BANGALORE

Scanned by TapScanner

8	18 / 4.46.2	Providing T.M.T steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 - TMT bars Fe 500	Tonnes								
		12mm, 0.89kgm	99	16	2.10	0.89		2960.50			
		8mm, 0.39kg/m @ 150mm c/c	99	12	3.00	0.39		1389.96			
						Total Qnty		4.35	75223.96	327224.23	
9	Approved Rate	Fabricating, Supplying and errection of decorative bent type Conical Street light pole with hot dip Galvanized with BSEN 10025 grade S 355 JO Steel plate for shaft, IS 2062 for base plate with door opening arrangements, including suitable boards, Bakelite sheet for MCBs as per IS Specifications.suitable to withstand the wind speed. The total height of the pole 9 mtrs. The pole should have 2 nos of pole esthetically bent either side. The dimensions of the pole bottom 178 mm,at 9 mtrs height 70 mm 3mm thick and one number of 3 mtr height perforated pole having colour changing LED Fixture, inside as suitable to the picture. The base plate size of 350mm x 350mm x 18 mm and the pole shall be galvanized with not less than 65 micron etc and finally finished with paint as required with two different colour. (With out foundation). As per the enclosed pictures and as per IS standards. As per attached Drawing	Nos								
				99				99.00	92500.00	9157500.00	
10	67/12.9.4	Supply of LED Streetlight luminaire with pressure die cast aluminium housing body for optimal thermal dissipation.Lamp compartment comprising of anti glare clear diffuser with Injection moulded polycarbonate material, delivering superior light output. Rated life Burning Hrs 50000 hr @ Lumen Maintenance of 70%, maximum light intensity should be between 60 degrees to 70 degrees. CCT > 5500K, IP 66 optical and electrical compartment & impact resistance of complete luminaire > IK08. Power Factor >0.9 with mains, Surge Protection- Min 5KV along with Over voltage/Overload, short circuit/ miss-wiring protection. Compatible for pole mouting with outer dia of 40mm to 50mm. Universal Voltage driver to operate wide voltage range from 100V to 270V 50/60Hz application. Compliance to IS 10322/IEC 60598, LM 79 & LM 80 Adherence with RoHS. UL approved MCPCB. Top access street light with single screw to ensure ease of maintenance at the sight site location with minimized minimal tools. LED Light fixture with .....W System Power consumption. LED efficiency>130lm/w, nominal CRI >75.Luminaire manufacturer should have in-house facility accredited by NABL/CPRI & any Government certified agency & Design & Development facility certified by ISO 9001:2008 . Housing with supplier word mark /name shall be Engraved / Embossing on the die cast housing/ Body LED Floodlight 150W part. Warranty of 2 Years against any manufacturing defect working under standard electrical conditions as mentioned above should be given by LED manufacturer & Cree/Nichia/ Lumileds/Osram make LED Source.	Nos								
				218.00				218.00	10250.00	2234500.00	
11	40/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 25 sqmm	Mtrs								
				1	4400.00			4400.00	180.00	792000.00	
12	40/6.4.5	Supplying of 1.1 KV LT UG cable XLPE or Heat resistant PVC insulated, PVC extruded Inner sheath armoured UG LT cable as per IS-1554 (Part-1) or IS-7098 Part-1, Armouring strip thickness in average +5% and resistivity 14 Ohms/Kms (Max) as per IS-3975 3.5 core 35 sqmm	Mtrs								
				1	638.00			638.00	225.00	143550.00	
13	41/6.5.1	Labour charges for laying of 1.1 KV class UG cable in existing trench GI pipe / stoneware pipe / on wall / on pole as required In existing trench/duct. 25 sqmm to 75 sqmm	Mtrs								
				1	5038.00			5038.00	15.50	78089.00	
14	66/6.6.1	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc ,complete (As per Civil SR KSRB I-2, P-7)In soil (ordinary)	Mtrs								
				1	3600.00			3600.00	76.00	273600.00	

INFRA TECHNOCRATS CONSULTANT BANGALORE

Scanned by TapScanner

15	66/6.6.4	Digging of trench of 0.6m deep x 0.50 mtr wide refilling the trench to the required ground level and consolidating etc.,complete (As per Civil SR KSRB I-2, P-7)Asphalt cutting	Mtrs							
				1	200.00			200.00	113.00	22600.00
16	6/2.3.2	Wiring for lighting/power circuit using one of FRLS PVC insulated 1100V grade, multistrand copper wire with low conductor resistance single core in open or concealed system of wiring with specified IS-694 confirming to latest amendments 1.5 sqmm	Mtrs							
				1	4000.00			4000.00	20.50	82000.00
17	41/6.9.1	Supplying and fixing of class A (medium duty) GI pipe of wall thickness not less than .25mm on pole/wall/drain crossing with necessary clamping arrangements for UG cable of 1.1 KV.40mm	Mtrs							
				1	30.00			30.00	335.00	10050.00
18	42/6.10.4	Supplying and fixing L.T. cast Iron pot heads suitable for 1.1 KV class UG cable filled with necessary bitumen/insulating compound complete with terminals, clamps, bolts, nuts and washers etc.35Sqmm	Nos							
				10.00				10.00	350.00	3500.00
19	43/6.17.7	Supplying tinned copper lugs and crimping and wiring to terminal point for wire of the following sizes.25 sqmm Long Barrel	Nos							
				600				600.00	20.00	12000.00
20	40/6.2	Supplying fixing and wiring earth electrode for grounding of lifts, transformers, DG sets etc. using 40mm dia 2.9mm thick 2.5 mtr long GI pipe with GI funnel with mesh and suitable size reducer fixed on the top of the earth electrode.The funnel should be enclosed in a CC chamber of 400x400x400mm with a cast iron cover. The earth electrode shall have staggered holes of 12mm dia and the electrode should be covered 150mm all-round with alternate layers of salt and charcoal from the bottom of the CC chamber. The connection from the electrode is to be established through GI strip using GI bolts and nuts.	Nos							
				8				8.00	4150.00	33200.00
21	40/6.3.10	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.600x600x3mm Copper plate	Nos							
				8.00				8.00	6900.00	55200.00
22	30/5.41.1	Supplying and fixing angle iron frame work fabricated out of M.S. angle iron.. and M.S. flat ... with bolts, washers etc.,and painted with 2 coats of red oxide and then two coats of approved paint.40x40x6mm	Mtrs							
				1	70.00			70.00	255.00	17850.00
23	30/5.42.2	Fabricating supplying and mounting MS box made out SWG suitable for floor / wall mounting, fully weather proof with provision for better heat dissipation, provided with hinged front cover, equipped with tamper proof locking arrangements, with suitable size clamps with necessary cable entry pipe with gland and box should be finished with 7tanks treatment with powder coated paint and finally finished with approved colour etc., complete16SWG	Sqmm							
				1				240000.00	0.35	84000.00
24	27/5.14.7	Supplying and fixing Moulded Case Circuit Breaker (MCCB)over the existing wood/panel board using necessary screws,bolts, nuts, necessary phase separators, handle and wiring complete. Protection of Overload and Short circuit with thermal Magnetic/Micro processor release and Earth Fault as per IS-13947. (Icu = Ics)100Amps 25kA.	Nos							
				5				5.00	6400.00	32000.00
25	79/14.5	Fixing halogen/metal halide / SVL / IL / LED floodlight fitting over existing pole / wall ceiling including clamps, bolts, nuts and wiring using suitable capacity wires.	Nos							
				218.00				218.00	175.00	38150.00
26	40/6.3.6	Supplying and running of GI/Copper strips for grounding connections, using necessary fixing materials as required.25x3mm Copper strip	Mtrs							
				1	250.00			250.00	505.00	126250.00

INFRA TECHNOCRATS CONSULTANT

Scanned by TapScanner

27		Supplying & fixing of retrofit type - LED bulb ....W with OPAL acrylic diffuser comprising of LED source with CCT 6500 degree K, CRI> 70%, efficacy >80 lumen per watt,life> 25000 burning hours and Compliance to IS 10322/IEC 60598, LM 79 & LM 80. The LED are driven by HF electronic driver integrated in the system, with PF > 0.95, power loss should < 5% of lamp wattage., short circuit & open circuit protection to be integrated in the circuit, THD less than 20%,Life as per LM 79. The operating input voltage should be between 130 to 275 volts. BIS Approved and Tested by ABL/CPRI accredited laboratory with 2 years Warranty against any manufacturing defect working under standard electrical condition 18W, 6500K	Nos	105				105.00	255.00	26775.00
28	25/5.7.3	Supplying & fixing of Porcelain fuse channel with cut out on existing wooden/panel using necessary nuts, bolts and washers.63Amps	Nos	24				24.00	227.00	5448.00
29	AR	Remotely control and and monitorable smart street light system by using web or mobile application .smart control system has hardware ruggedness over field issues like line cross, line short, lighting and any other irregularities in oltage. It has some features like 1.Remote lighting anagement.2.Precise lighting turnoff.3.Load allancing.4.Load power regulation.5.Status tracking. It works on the basis of some of these features 1) Main Control Unit (Mother board) : Handles controlling , data handling and other communication process. 2) Communication unit: GSM/GPRS quad bandwith RS232 interface wireless communication unit 3) Gate Driver Unit: Firing angle controllable board for driving the thyristor 4) Switching Thyristor: SCR 110 AMPS dual thyristor modules for switching 5) Embedded Firmware: Firmware to control , handle , process the data and communicate it wirelessly.6) Metal Enclosure : IP66 weather prof metal enclosure.7) Transformers: Customized step down transformers for various purposes.8) Wiring and other device assembly components.	Nos	8				8.00	51500.00	412000.00
30	BESCOM SR 18-1913/39.02	Laying of UG Cables by trenchless technology by adopting horizontal boring & Drawing of cable including preparation at site With HDPE Pipe i) Normal soil 5/6" bore size	Mtrs	1	205.00			205.00	848.00	173840.00
									Total Construction Cost	18467453.00
									Add GST 12%	1117194.36
									BESCOM Charges	15000.00
									Add 2% for DPR and PMC Charges	400000.00
									Miscellaneous	352.64
									Grand Total Rs	20000000.00

CERTIFICATE :-

1. The place was inspected and the work is essential.
2. The provision made in the estimate are adequate and necessary and the work comes in the BBMP limit and is legitimate Charges on the BBMP funds.
3. The estimate is based on KPWD (Ele) S.R.2019-20 , and Approved Rates.

Asst. Engineer (Elec)

Asst. Exe. Engineer (Elec)
Sub-Division No.

EXECUTIVE ENGINEER (ELEC)
YELAHANKA DIVISION
BRUHAT BANGALORE MAHANAGARA PALIKE

INFRA TECHNOCRATS CONSULTANT BANGALORE

Technical Sanction
Accorded For RS. 200.00 lakhs
Head of A/C P-37118
CER NO :..... Dt:..

TA

CE (YNK)

Administrative Approval
Accorded For RS. 200.00 lakhs
Head of A/C P-37118
CER NO :.22..... Dt:.24/08/2020

E.E. (Project)

Scanned by TapScanner